

CLAIMS

What is claimed is:

1. A flame retardant composition comprising:
a polymeric base material;
a non-halogenated flame retardant material; and
a synergist material present in a concentration of about 1 percent by weight of the composition, the synergist being substantially free from metal oxides,
wherein the flame retardant composition achieves a flammability rating of at least V-2 when tested in accordance with UL testing conditions.
2. The flame retardant composition in accordance with claim 1 wherein the polymeric base material is polypropylene.
3. The flame retardant composition in accordance with claim 2 wherein the polypropylene is a homopolymer.
4. The flame retardant composition in accordance with claim 1 wherein the flame retardant material is a phosphate salt.
5. The flame retardant composition in accordance with claim 1 wherein the synergist is a clay.
6. The flame retardant composition in accordance with claim 5 wherein the clay is a nanoclay.
7. The flame retardant composition in accordance with claim 5 wherein the clay has a particle size of 500 nanometers or less.

8. The flame retardant composition in accordance with claim 1 wherein the non-halogenated flame retardant material is present in a concentration of about 25 percent to less than about 45 weight percent of the composition.

9. A flame retardant composition comprising:
a polymeric base material present in a concentration of about 60 percent to about 70 percent by weight of the composition;
a non-halogenated flame retardant material present in a concentration of about 30 percent to about 35 percent by weight of the composition; and
a synergist material present in a concentration of about 1 percent by weight of the composition, the synergist being substantially free from metal oxides,
wherein the flame retardant composition achieves a flammability rating of at least V-2 when tested in accordance with UL testing conditions.

10. The flame retardant composition in accordance with claim 9 wherein the polymeric base material is polypropylene.

11. The flame retardant composition in accordance with claim 10 wherein the polypropylene is a homopolymer of polypropylene.

12. The flame retardant composition in accordance with claim 9 wherein the non-halogenated flame retardant material is a phosphate salt

13. The flame retardant composition in accordance with claim 9 wherein the synergist material is a clay.

14. The flame retardant composition in accordance with claim 9 wherein the clay is a nanoclay.

15. The flame retardant composition in accordance with claim 9 wherein the clay has a particle size of 500 nanometers or less.

16. A flame retardant composition comprising:
a polypropylene base material present in a concentration of about 60 percent to about 70 percent by weight of the composition;
a phosphate salt non-halogenated flame retardant material present in a concentration of about 30 percent to about 35 percent by weight of the composition; and
a clay material synergist present in a concentration of about 1 percent by weight of the composition, the clay material synergist being substantially free from metal oxides,
wherein the flame retardant composition achieves a flammability rating of at least V-2 when tested in accordance with UL testing conditions.

17. The flame retardant composition in accordance with claim 16 wherein the polypropylene base material is present in a concentration of about 68 percent by weight of the composition, the phosphate salt non-halogenated flame retardant material is present in a concentration of about 30 percent by weight of the composition and the clay material synergist is present in a concentration of about 1 percent by weight of the composition.